NCM1B Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 5 Lesson 5 Homework: Compound Interest**

**Write an explicit equation for each problem and find the solution.**

1. Lisa invested $1000 into an account that pays 4% interest compounded monthly. If this account is for her newborn, how much will the account be worth on his 21st birthday, which is exactly 21 years from now?

2. An investment of $75,000 increases at a rate of 12.5% per year. Find the value of the investment after 30 years.

 How much more would you have if the interest is compounded quarterly?

3. Suppose you invest $5000 at an annual interest of 7%, compounded semi-annually. How much will you have in the account after 10 years?

 Determine how much more you would have if the interest were compounded monthly.

4. Mr. Jackson wants to open up a savings account. He has looked at two different banks. Bank 1 is offering a rate of 5.5% compounded quarterly. Bank 2 is offering an account that has a rate of 8%, but is only compounded semi-annually. Mr. Jackson puts $6,000 in an account and wants to take it out for his retirement in 10 years. Which bank will give him the most money back?

5. Mason deposited $2,000 into a savings account that pay an annual interest rate of 9% compounded annually. Determine the amount of money in the savings account after 1 year, 5 years, 10 years and 20 years.